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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,362	12/03/2003	Shouji Yajima	109067.01	3110

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OLIFF & BERRIDGE, PLC  
P.O. BOX 19928  
ALEXANDRIA, VA 22320

EXAMINER
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LOPEZ, CARLOS N

ART UNIT	PAPER NUMBER
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1731

MAIL DATE	DELIVERY MODE
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07/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/725,362	Applicant(s) YAJIMA ET AL.	
	Examiner /Carlos Lopez/	Art Unit 1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/8/07 has been entered.

***Claim Rejections - 35 USC § 112***

Claims 1-2 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification at lines 16ff in page 34 notes the following:

Fig. 5 is a schematic cross-sectional view to show a preferred embodiment of the thermal treatment apparatus of the present invention. In the thermal treatment apparatus of Fig. 5, a furnace 501 is constructed of a metal frame 502 and a refractory board 503 cemented to the inside of the frame 502, and a heat generator 504 for raising the temperature in the furnace 501 is embedded in the refractory board 503.

The specification does not provide support for a heat generator being provided "on the surface" of a furnace. It only provides support for a heat generator being

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"embedded"<sup>1</sup>. Nowhere does the specification provide for a heat generator to be provided on the surface of the furnace, at best as shown above, it only provides for a heat generator being embedded in the furnace. It follows that the heat generator is enclosed and surrounded by refractory board 503, beneath the surface of the furnace, but not "on the surface" of a furnace since it is enclosed, embedded, by the refractory board 503.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 are rejected under 35 U.S.C. 102(a) or (e) as being anticipated by Jobi et al (US 6,087,283). Jinbo discloses a thermal treatment apparatus as shown in figure 10. The claimed furnace refractory is deemed as element 407, the claimed stage is deemed as element 408 reciprocating up and down into and out of the furnace 407 as

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- <sup>1</sup> enclosed firmly in a surrounding mass; "found pebbles embedded in the silt"; "stone containing many embedded fossils"; "peach and plum seeds embedded in a sweet edible pulp"
  - inserted as an integral part of a surrounding whole; "confused by the embedded Latin quotations"; "an embedded subordinate clause"  
[wordnet.princeton.edu/perl/webwn](http://wordnet.princeton.edu/perl/webwn)

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shown in figure 10 by its arrow of motion, the claimed heat generator is deemed as the burner 406, and the claimed driving section is deemed as being an inherent feature in order to move the stage as described in Col. 15, lines 40ff and which is capable of moving the stage to the claimed first and second positions.

As for claim 2, the claimed rotational driving section is deemed as an inherent feature in order to rotate the stage as described in Col. 15, lines 40ff.

In regards to the limitation of a heat generator being provided on a surface of the furnace so as to surround the synthetic silica, it is deemed that the element 406 is provided on a surface of the refractory 407, at the very least on the surface of refractory element 407 that surrounds the heat generator element 406. The claim only requires that the heat generator be on "a surface" but does not specify which surface. In the instant case, the surface of the refractory that surrounds the heat generator 406 is deemed as the claimed surface.

The claimed limitation that the heat generator surrounds the synthetic glass is deemed as the synthetic glass that is initially deposited on the stage 408. The heat generator 406 would surround the initial amount of deposited silica, due to the small size of silica initially deposited on the stage.

The claimed new limitation of a heat generator having a vertical dimension is deemed as the length of the burner 406 wherein at least one plane, selected from an infinite number of planes traversing the ingot, is surrounded by the burner 406.

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The ingot having an infinite number of vertical planes has at least one vertical plane that traverses the burner. Hence, the burner would surround at least one vertical plane of the ingot.

### ***Conclusion***

References A-B have been cited to show art that is analogous to Jobi et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Carlos Lopez/ whose telephone number is 571.272.1193. The examiner can normally be reached on Mon.-Fri. 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571.272.1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carlos Lopez/  
Primary Examiner  
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